

**Operating Committee**  
**PJM Conference & Training Center, Audubon, PA**  
**May 14, 2019**  
**9:00 a.m. – 3:00 p.m. EPT**

## Administration

1. The Operating Committee (OC) Agenda for this meeting was **approved**.
2. The Draft Minutes of the April 9, 2019 OC meeting were **approved** as drafted.
3. Mr. Don Wallin, PJM, reviewed the OC Work Plan. The work plan will be adjusted to reflect the OC charter annual review for the months of April and May.

## Review of Operations

4. **Review of Operational Events**  
Mr. Mike Zhang, PJM, reviewed PJM operations since the last OC Meeting.
5. **Review of Operating Metrics**  
Mr. Mike Zhang, PJM, reviewed the April 2019 PJM operating metrics slides. Metrics included PJM's load forecast error, BAAL performance, transmission / generation outage statistics, and Perfect Dispatch historical performance. Mr. Zhang noted that PJM reviewed the action item to add Operator Bias and Reserve Pricing to the Operating Metrics report. The OC will keep this issue as an outstanding action item until the MIC assumes responsibility for the action item as part of the Five Minute Dispatch and Pricing Task Force Problem Statement and Issue Charge.

## Endorsements/Approvals

6. **Manual 01 Changes**  
Ms. Bilge Derin, PJM, reviewed the proposed changes to Manual 01: Control Center and Data Exchange Requirements. The Operating Committee **endorsed** these changes by acclamation with 0 objections and 0 abstentions.
7. **Manual 03 Changes**  
Mr. Lagy Mathew, PJM, reviewed the proposed changes to Manual 03: Transmission Operations. The Operating Committee **endorsed** the manual language changes by acclamation with 0 objections and 0 abstentions. Manual language changes regarding stability related unit reductions are deferred in order to align with proposed Manual 10 changes after the June MIC meeting. PJM will provide an education session on Transient Stability analysis and modeling.
8. **Manual 10 Changes**  
Mr. Vince Stefanowicz, PJM, reviewed the proposed changes to Manual 10: Prescheduling Operations. The Operating Committee will postpone the endorsement vote until after the June MIC meeting.

## 9. Manual 11 and 13 Changes

Ms. Natalie Tacka, PJM, reviewed the proposed manual language changes to Manual 11: Energy & Ancillary Services Market Operations and Manual 13: Emergency Operations. The Operating Committee **endorsed** these changes by acclamation with 0 objections and 0 abstentions.

## 10. Manual 13 Cover to Cover Review

Mr. Augustine Caven, PJM, reviewed the proposed changes to Manual 13: Emergency Operations as part of a cover to cover review. The review included manual changes to Resource Limitation Reporting and other administrative changes. The Operating Committee **endorsed** the administrative changes to the manual by acclamation with 0 objections and 0 abstentions. The proposed manual changes regarding Resource Limitation Reporting was deferred until the June OC meeting to allow additional stakeholder input. **The Operating Committee will be asked to endorse the Resources Limitation Reporting changes at the next OC meeting.**

## 11. Manual 36 Changes

Mr. Liem Hoang, PJM, reviewed the proposed changes to Manual 36: System Restoration. The OC **endorsed** these changes by acclamation with 0 objections and 0 abstentions.

## 12. Review of Operating Committee Charter

Mr. Dave Souder, PJM, reviewed the PJM Operating Committee Charter as part of the annual review process. The OC **endorsed** the OC Charter by acclamation with 0 objections and 0 abstentions.

## First Readings

### 12a. Manual 39 Changes

Mr. Dan Bennett, PJM, reviewed the proposed changes to Manual 39: Nuclear Plant Interface Coordination. **The Operating Committee will be asked to endorse these changes at the next OC meeting.**

## OC Subcommittee / Task Force Updates

### 13. System Operations Subcommittee (SOS)

Mr. Mike Zhang, PJM, provided a summary of the most recent SOS meeting.

### 14. Data Management Subcommittee (DMS)

Ms. Diane Lake, PJM, provided a summary of the most recent DMS meeting and reviewed proposed changes to the DMS Charter. **The Operating Committee will be asked to endorse these changes at the next OC meeting.**

### 15. Distributed Energy Resources Subcommittee (DERS)

There were no DERS subcommittee updates for this month's meeting.

### 16. System Restoration Coordinators Subcommittee (SRCS)

There were no SRCS subcommittee updates for this month's meeting.

## 17. Primary Frequency Response Sr. Task Force (PFRSTF)

There were no SRCS subcommittee updates for this month's meeting.

### Unit Specific Parameter Updates

## 18. Unit Specific Parameter Updates

There were no Unit Specific Parameter updates for this month's meeting.

### PJM Initiatives/Education Updates

## 19. Fuel Requirements for Black Start Resources Update

There were no Fuel Requirements for Black Start Resources updates for this month's meeting. More information on this initiative can be found at PJM's Issues Tracking page.

<https://www.pjm.com/committees-and-groups/issue-tracking/issue-tracking-details.aspx?Issue={B7F726E1-9F06-414E-8516-4D69B5050AF4}>

## 20. Improving Load Forecast with Behind-the-Meter Solar Forecast Education

Mr. Joseph Mulhern, PJM, provided education regarding improving load forecasts with Behind the Meter solar forecasts. PJM will provide a list of educational agenda items as part of future OC agendas.

### Tool and Informational Updates (9:55 – 10:45)

## 21. Regulation Performance Updates

Ms. Danielle Croop, PJM, provided an update on PJM's regulation performance.

## 22. NERC Lessons Learned

There were no recently posted NERC Lessons Learned reports for this month's meeting.

## 23. Operations Assessment Task Force (OATF)

Mr. Rob Dropkin, PJM, reviewed the results of the Summer 2019 OATF Study.

## 24. Reliability Compliance Update

There were no Reliability Compliance updates for this month's meeting.

## 25. ComEd Quad Cities RAS/SPS Retirement

Mr. Alan Engelmann, ComEd, provided an update regarding the retirement of the Quad Cities RAS/SPS.

## 26. Pricing Interface Update

There were no newly created pricing interfaces.

### Non-Retail Behind the Meter Generation (NRBTMG) Business Rules Issue (11:00 - 15:00)

## 27. Existing Non-Retail Behind the Meter Generation Business Rules Education

Ms. Terri Esterly, PJM, provided education regarding the existing Non-Retail Behind the Meter Generation business rules. Mr. Dave Souder stated that the Settlement Agreement would not be modified since the 3,000 MW threshold has not been reached. PJM will share a first read of draft manual language at the June OC meeting.

#### **27a. Non-Wholesale Distributed Energy Resources Data Collection Education**

Mr. Joseph Mulhern, PJM, provided education regarding Non-Wholesale Distributed Energy Resources data collection.

#### **27b. Process Used to Estimate Non-Retail Behind the Meter Generation in PJM Education**

Mr. Joseph Mulhern, PJM, provided education regarding the process used to estimate the amount of Non-Retail Behind the Meter Generation in PJM.

#### **27c. Non-Retail Behind the Meter Generation Settlement Agreement – Determination of the Threshold and Cap**

Mr. Tom Falin, PJM, provided education on the calculation of the 1,500 MW Threshold and 3,000 MW Cap on Non-Retail Behind the Meter Generation.

#### **27d. Identification of Clarifications Needed in Existing Non-Retail Behind the Meter Generation Business Rules**

Ms. Terri Esterly, PJM, reviewed the clarifications needed in the existing Non-Retail Behind the Meter Generation business rules.

### Action Items

1. PJM will review the request to include additional data to the Operating Metrics report in the area of Operator Biasing and Reserve Pricing.
2. The OC will update the OC work plan to expand the OC charter annual review to include the months of April and May.
3. PJM will provide education on how PJM calculates transient stability analysis.
4. PJM will defer Manual 03 language changes regarding stability studies in order to align with the timing of proposed Manual 10 language changes until after the June MIC meeting.
5. Manual 10 endorsement vote will be deferred until after the June MIC meeting.
6. PJM will provide a list of all education delivered in future OC agendas.
7. PJM will update load forecast charts presented as part of the Improving Load Forecast with Behind-the-Meter Solar Forecast Education agenda item to provide MW values along the vertical axis.

### Information Only

The Non-Retail Behind the Meter Generation Subgroup April 29 meeting draft minutes are posted on the May 14 OC meeting website.

## Future Meeting Dates

June 11, 2019	9:00 a.m.	PJM Interconnection - Conference and Training Center
July 9, 2019	9:00 a.m.	PJM Interconnection - Conference and Training Center
August 6, 2019	9:00 a.m.	PJM Interconnection - Conference and Training Center
September 10, 2019	9:00 a.m.	PJM Interconnection - Conference and Training Center

Author: Don Wallin

## In Attendance (In Person)

Last Name	First Name	Company	Sector
Souder (Chair)	Dave	PJM Interconnection, LLC	Not Applicable
Wallin (Secretary)	Don	PJM Interconnection, LLC	Not Applicable
Benchek	Jim	American Transmission Systems, Inc.	Transmission Owner
Braerman	Ken	Baltimore Gas and Electric	Transmission Owner
D'Alessandris	Lou	FirstEnergy Solutions Corp.	Transmission Owner
Foladare	Kenneth	Tangibl	Not Applicable
Ford	Adrien	Old Dominion Electric Cooperative	Electric Distributor
Hastings	David	Market Interconnection Consulting Services (MICS)	Not Applicable
Kogut	George	New York Power Authority	Other Supplier
Midgley	Sharon	Exelon Business Services Company, LLC	Transmission Owner
O'Connell	Robert	PPGI Fund Development LLC.	Generation Owner
Scarpignato	David	Calpine Energy Services, LP.	Generation Owner
Smith	Christen	RTO Insider	Not Applicable
Stewart	Travis	Gable and Associates	Not Applicable
Trayers	Barry	Citigroup Energy, Inc.	Other Supplier

## In Attendance (Via Conference Call)

Last Name	First Name	Company	Sector
Ainspan	Malcolm	Energy Curtailment Specialists, Inc.	Not Applicable

Bonner	Charles	Dominion Virginia Power	Not Applicable
Brodbeck	John	EDP Renewables North America, LLC	Other Supplier
Buhler	Tom	Consolidated Edison Company of NY. Inc.	Transmission Owner
Capra	Carlo	ITC Interconnection LLC	Other Supplier
Cocco	Michael	Old Dominion Electric Cooperative	Electric Distributor
Cox	Edward	Appalachian Power Company	Transmission Owner
Crystle	Gil	UGI Development Company	Transmission Owner
Davis	James	Dominion Energy Marketing, Inc.	Generation Owner
DiNicola	Laura	PPL Electric Utilities Corp.	Transmission Owner
Dugan	Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Engelmann	Alan	Commonwealth Edison Company	Transmission Owner
Feller	John	PPL Electric Utilities Corp.	Transmission Owner
Filomena	Guy	Customized Energy Solutions, Ltd.	Not Applicable
Gagen	Rod	Dominion Virginia Power	Not Applicable
Garnett	Bryan	Duke Energy Ohio, Inc.	Transmission Owner
Garza	Mark	Jersey Central Power & Light Company	Transmission Owner
Gebolys	Debbie	Public Utilities Commission of Ohio (The)	Not Applicable
Gilani	Rehan	ConEdison Energy, Inc.	Other Supplier
Grear	Mark	Exelon Generation Co., LLC	Generation Owner
Guntle	Vince	UGI Development Company	Generation Owner
Hammack	Matthew	PPL Web	Transmission Owner
Hanebuth	Michele	Consolidated Edison Company of NY. Inc.	Transmission Owner
Heisey	Bradley	Wolf Hills Energy, LLC	Generation Owner
Hoatson	Tom	Riverside Generating, LLC	Other Supplier

Hohenshilt	Jennifer	Talen Energy Marketing, LLC	Generation Owner
Horning	Lynn Marie	Customized Energy Solutions Ltd.	Not Applicable
Horstmann	John	Dayton Power & Light Company (The)	Transmission Owner
Hyzinski	Tom	GT Power Group	Not Applicable
Johnson	Carl	Customized Energy Solutions Ltd.	Not Applicable
Kelley	Ryan	Duke Energy Ohio, Inc.	Transmission Owner
Kelly	Stephen	Brookfield Energy Marketing LP	Other Supplier
Krawczyk	Leslie	Reliability First	Not Applicable
Libbos	Robin	FirstEnergy Solutions Corp.	Transmission Owner
Lowe	Connie	Dominion Virginia Power	Not Applicable
Lyakhovich	Leonid	Public Service Electric & Gas Company	Transmission Owner
Mabry	David	McNees Wallace & Nurick LLC	Not Applicable
Matuszak	Alex	UGI Energy Services, LLC	Other Supplier
Norton	Chris	American Municipal Power, Inc.	Electric Distributor
Ondayko	Brock	Appalachian Power Company	Transmission Owner
Pakela	Gregory	DTE Energy Trading, Inc.	Other Supplier
Poulos	Greg	CAPS	Not Applicable
Sasser	Jonathan	Customized Energy Solutions, Ltd.	Not Applicable
Singer	Chad	Trane Grid Services LLC.	Other Supplier
Singh	Mohit	Commonwealth Edison Company	Transmission Owner
Skumanich	William	PPL Electric Utilities Corp. dba PPL Utilities	Transmission Owner
Squibb	William	Ohio Valley Electric Corporation	Transmission Owner
Stack	James	Duquesne Light Company	Transmission Owner
Sturgeon	John	Duke Energy Carolinas LLC.	Other Supplier

Sullivan	James	Neptune Regional Transmission System, LLC.	Transmission Owner
Suh	Jung	Calpine Energy Services LP.	Generation Owner
Vayda	Brian	Borough of Park Ridge	Electric Distributor
Whitehead	Jeffrey	GT Power Group	Not Applicable

## PJM Attendees

Last Name	First Name	Company	Sector
Anders	David	PJM Interconnection, LLC	Not Applicable
Bennett	Daniel	PJM Interconnection, LLC	Not Applicable
Boyle	Glen	PJM Interconnection, LLC	Not Applicable
Brown	Rich	PJM Interconnection, LLC	Not Applicable
Bryson	Mike	PJM Interconnection, LLC	Not Applicable
Caven	Augustine	PJM Interconnection, LLC	Not Applicable
Chen	Hong	PJM Interconnection, LLC	Not Applicable
Davis	Elizabeth	PJM Interconnection, LLC	Not Applicable
Derin	Bilge	PJM Interconnection, LLC	Not Applicable
Esterly	Theresa	PJM Interconnection, LLC	Not Applicable
Fabiano	Janell	PJM Interconnection, LLC	Not Applicable
Frogg	Darrell	PJM Interconnection, LLC	Not Applicable
Genuario	Gabrielle	PJM Interconnection, LLC	Not Applicable
Hendrzak	Chantal	PJM Interconnection, LLC	Not Applicable
Herel	Suzanne	PJM Interconnection, LLC	Not Applicable
Hoang	Liem	PJM Interconnection, LLC	Not Applicable
Jani	Alpa	PJM Interconnection, LLC	Not Applicable
Kimmel	David	PJM Interconnection, LLC	Not Applicable
Lake	Diane	PJM Interconnection, LLC	Not Applicable

Langbein	Pete	PJM Interconnection, LLC	Not Applicable
Mathew	Lagy	PJM Interconnection, LLC	Not Applicable
McGlynn	Paul	PJM Interconnection, LLC	Not Applicable
Mooney	Molly	PJM Interconnection, LLC	Not Applicable
Muhl	Nancy	PJM Interconnection, LLC	Not Applicable
Mulhern	Joseph	PJM Interconnection, LLC	Not Applicable
Phillips	Darlene	PJM Interconnection, LLC	Not Applicable
Pincus	Steven	PJM Interconnection, LLC	Not Applicable
Reynolds	John	PJM Interconnection, LLC	Not Applicable
Schmitt	Jeff	PJM Interconnection, LLC	Not Applicable
Schuyler	Ken	PJM Interconnection, LLC	Not Applicable
Schweizer	David	PJM Interconnection, LLC	Not Applicable
Stefanowicz	Vincent	PJM Interconnection, LLC	Not Applicable
Stone	Andy	PJM Interconnection, LLC	Not Applicable
Tacka	Natalie	PJM Interconnection, LLC	Not Applicable
Tam	Simon	PJM Interconnection, LLC	Not Applicable
Thomas	Henry	PJM Interconnection, LLC	Not Applicable
Velasco	Cheryl Mae	PJM Interconnection, LLC	Not Applicable
Zhang	Mike	PJM Interconnection, LLC	Not Applicable

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